



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,562	10/03/2005	David F. Sim	920446-99380	3540
23644 7590 02/21/2008 BARNES & THORNBURG LLP P.O. BOX 2786 CHICAGO, IL 60690-2786			EXAMINER YACOB, SISAY	
			ART UNIT 2612	PAPER NUMBER
			NOTIFICATION DATE 02/21/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent-ch@btlaw.com

## Office Action Summary

Application No.

10/531,562

Applicant(s)

SIM ET AL.

Examiner

Sisay Yacob

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1 This communication is in response to applicant's amendment to a first non-final office action, which was filed December 14, 2007.

**Note:**

**Applicant has amended claim 15 to comply with examiner objection.**

**Therefore, objection to claim 15 has been withdrawn.**

2 Amendments and arguments to pending rejected claims 1-15 have been entered and made of record in the application of Sim et al. for "Mud pulse landing assembly for use in directional drilling" filed on October 03, 2005.

Claims 1, 12 and 15 are amended.

Claims 2-11 and 12-14 are same as originally filed.

**Claims 1-15 are pending.**

### **RESPONSE TO ARGUMENTS**

3 Applicant's amendments and arguments the pending rejected claims 1-15 have been fully considered, but are not persuasive in view of the rejection cited below in their respective rejection section. The prior arts presented in the earlier office action have been used herein with further explanation, in account of the argument presented by the applicant, to further address applicant concern and to clearly show how the limitation of the claims are met by the same.

4 On Page 5 Par. 3-4, Page 6, Par. 1-4 and all subsequent applicant argument with respect to claims 1, 2, 4-8 and 15, the cited reference failing to disclose the claimed limitations of the pending rejected claims: the mud pulse generator does not actively engage the landing sub body, but is rather maintained in position by the mechanical action of separate retainer. And applicant arguments respect to the present invention clearly requiring the retainer to engage the mud pulse generator at or upstream of the outlet end.

5 In Winnacker's disclosure the retention to the landing sub body is achieved by the resilient detents (Item 36) not by the pulse generator (Item 4) as it argued by the applicant (See paragraph 22 of applicant's submitted translation). It would be a designer's (engineering) choice to have the retainer to engage the mud pulse generator at or downstream of the outlet end or at or upstream of the outlet end.

6 On Page 5 Par. 3-4, Page 6, Par. 1-4 and all subsequent applicant argument with respect to by maintaining the retaining function in the retainer, the removable mud pulse generator is simplified in construction, thereby reducing cost, as well as the likelihood of binding upon insertion and removal from the drill string. In the cited reference, it is foreseeable that the detents could bind either the drill string itself, or debris contained therein upon removal, thus obviating the advantages of having this device removable, and the retainer, the mud pulse generator and its outlet end are arranged so as to protect the retainer from turbulent an abrasive mud flow.

7 The limitations on which the applicant relies are not stated in the claims. It is the claims that define the claimed invention, and it is claims, not specifications that are anticipated or unpatentable.

8 On Page 6, Par. 5-7 and all subsequent applicant's argue with prior art of Jeter not addressing the deficiencies of the primary cited reference of Winnacher.

9 Jeter discloses a mud pulse generator comprising a compact muleshoe, an MWD tool in a spaced-apart relationship from said compact muleshoe, and at least one leg maintaining said muleshoe body in a fixed position relative to said muleshoe body, said compact muleshoe containing a mud pulse orifice, said MWD tool containing a piston

actuator and piston, and the muleshoe body and said at least one leg is a unitary structure (Col. 4, lines 12-59; Col. 6, lines 9-30; Figures 1-9).

### **CLAIM REJECTIONS - 35 USC § 102**

10 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11 Claims 1, 2, 4-8 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by German Patent of Winnacker (DE 19627719 A).

12 As to claim 1, Winnacker discloses a mud pulse assembly for producing mud pulses for communicating during directional drilling data telemetry comprising: a removable mud pulse generator for positioning in a landing sub body, said removable mud pulse generator having an outlet end, and a retainer for releasably engaging said removable mud pulse generator in said landing sub body, said retainer engaging said mud pulse generator at or upstream of said outlet end, said retainer being remotely operable to release said removable mud pulse generator from said mud pulse assembly (Col. 1, lines 3-31; Col. 4, lines 50-61; Col. 7, Claim 1; Figures 1-3).

13 As to claim 2, Winnacker discloses a retainer comprises at least one detent for retention of said removable mud pulse generator, and a coupler for preventing rotation of said removable mud pulse generator relative to said landing sub body, said removable mud pulse generator being adapted to receive said detent and engage said coupler (Col. 4, lines 50-61; figures 1-3).

14 As to claim 4, Winnacker discloses a coupler comprises at least one spline on at least a portion of adjacent surfaces of said removable mud pulse generator and said landing sub body (Col. 5, line 64 - Col. 6, line 4; Item 29 of figure 1).

15 As to claim 5, Winnacker discloses a coupler comprises non-circular keyed mating surfaces (Col. 6, lines 7-13; Item 36 of figure 1).

16 As to claims 6-8, Winnacker discloses a retainer maintains said removable mud pulse generator in both a fixed spatial and fixed rotational position relative to said landing sub body, said retainer comprises at least one detent, said at least one detent being adapted with a means for locking said removable mud pulse generator in fixed rotational position relative to said landing sub body, and said means for locking comprises at least one longitudinal spline, said spline being received by a corresponding spline on said removable mud pulse generator (Col. 4, lines 50-61; Col. 6, lines 13-37; Figures 1-3).

17 As to claim 15, the mud pulse landing assembly of claim 1, wherein said removable mud pulse generator can be released and moved in either the upward or downward direction relative to the retainer (Col.1, lines 3-31).

### **CLAIM REJECTIONS - 35 USC § 103**

18 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19 The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

20 Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent of Winnacker (DE 196 27 719 A) in view of the U.S. Patent of Jeter (4,120,097).



21 As to claims 12 and 13, Winnacker a removable mud pulse generator is of modular design, said removable mud pulse generator comprising a compact muleshoe, an MWD tool in a spaced-apart relationship from said compact muleshoe, and at least one leg maintaining said muleshoe body in a fixed position relative to said mud tool, said compact muleshoe containing a mud pulse orifice, said MWD tool containing a piston actuator and piston, and the muleshoe body and said at least one leg is a unitary structure.

Jeter discloses a mud pulse generator comprising a compact muleshoe, an MWD tool in a spaced-apart relationship from said compact muleshoe, and at least one leg maintaining said muleshoe body in a fixed position relative to said mud tool, said compact muleshoe containing a mud pulse orifice, said MWD tool containing a piston actuator and piston, and the muleshoe body and said at least one leg is a unitary structure (Col. 4, lines 12-59; Col. 6, lines 9-30; Figures 1-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a mud pulse generator of Jeter, because they both are directed to solving similar problem in a downhole environment, which deals with an MWD tool incorporating an apparatus, system and method of mud pulse telemetry.

### **CLAIM OBJECTIONS**

14     Claims 3, 9-11 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

### **CONCLUSION**

15     **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

16     Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sisay Yacob whose telephone number is (571) 272-

Application/Control Number:  
10/531,562  
Art Unit: 2612

Page 10

8562. The examiner can normally be reached on Monday through Friday 8:00 AM - 4:30 PM.

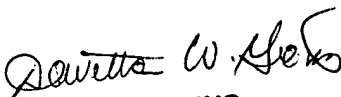
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A. Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sisay Yacob

S-Y-

2/12/2008

  
**DAVETTA W. GOINS**  
**PRIMARY EXAMINER**